

Claims:

1. (currently amended) A dynamic magnet system, comprising:
  - a support structure, and
  - a plurality of magnets oriented successively in

5 polar opposition for individual movement relative to each other and to said support structure, at least some of said magnets having mutually different properties.

  
- 2. (original) The dynamic magnet system of claim 1, said at least some magnets having different magnetic strengths.
  
- 3. (original) The dynamic magnet system of claim 2, said at least some magnets having substantially equal sizes.
  
- 4. (original) The dynamic magnet system of claim 1, said at least some magnets having different sizes.
  
- 5. (original) The dynamic magnet system of claim 4, said at least some magnets having substantially equal unit magnetic strengths.
  
- 6. (original) The dynamic magnet system of claim 1, further comprising respective bearings establishing static coefficients of friction between said magnets and said support structure less than 0.02.
  
- 7. (original) The dynamic magnet system of claim 1, further comprising ferrofluid bearings between said magnets and said support structure.

8. (original) The dynamic magnet system of claim 7, said ferrofluid having a viscosity less than 10 centipoise.

9. (original) The dynamic magnet system of claim 8, said ferrofluid comprising a light mineral oil medium mixed with isoparaffinic acid.

10. (original) The dynamic magnet system of claim 1, further comprising a conductor oriented with respect to said support structure and magnets so that movement of said magnets induces an electrical signal in said conductor.

11. (original) The dynamic magnet system of claim 10, said conductor comprising at least one coil wound on said support structure, said support structure being non-conductive.

12. (original) The dynamic magnet system of claim 10, further comprising an operating system powered by said signal.

13. (original) The dynamic magnet system of claim 1, further comprises a pair of end magnets limiting the travel of said moving magnets, said end magnets oriented in polar opposition to the nearest respective moving magnet.

14. (original) The dynamic magnet system of claim 1, said magnets having multiple oscillation modes relative to said support structure.

15. (original) The dynamic magnet system of claim 1, said support structure orienting said magnets for movement in a primarily horizontal direction.

16. (original) The dynamic magnet system of claim 1, said magnets oriented for movement along a common axis.

17. (original) The dynamic magnet system of claim 1, said system having a critical angle of displacement for said magnets from a horizontal static position of less than 1 degree.

18. (original) The dynamic magnet system of claim 17, wherein said critical angle is less than 10 minutes.

19. (currently amended) An energy harvester, comprising:

a support structure,

5 a plurality of magnets oriented successively in polar opposition for individual movement relative to each other, and to oscillate relative to said support structure in multiple oscillation modes, at least some of said magnets having mutually different properties,

10 coefficients of friction between said magnets and said support structure less than 0.02, and

15 a conductor oriented with respect to said support structure and magnets so that oscillation of said magnets in response to a movement of said support structure induces an electrical signal in said conductor.

20. (original) The energy harvester of claim 19, said at least some magnets having different magnetic strengths.

21. (original) The energy harvester of claim 20, said at least some magnets having substantially equal sizes.

22. (original) The energy harvester of claim 19, said at least some magnets having different sizes.

23. (original) The energy harvester of claim 22, said at least some magnets having substantially equal unit magnetic strengths.

24. (original) The energy harvester of claim 19, said bearings comprising a ferrofluid.

25. (original) The energy harvester of claim 24, said ferrofluid having a viscosity less than 10 centipoise.

26. (original) The energy harvester of claim 24, said ferrofluid comprising a light mineral oil medium mixed with isoparaffinic acid.

27. (original) The energy harvester of claim 19, further comprising an operating system powered by said signal.

28. (original) The energy harvester of claim 19, said support structure orienting said magnets for movement in a primarily horizontal direction.

29. (currently amended) An energy harvester, comprising:

a support structure,  
a plurality of magnets oriented successively in  
5 polar opposition for individual movement relative to each other, and to oscillate relative to said support structure in multiple oscillation modes, at least some of said magnets having mutually different properties, and

10 port structure and magnets so that oscillation of said magnets in response to a movement of said support structure induces an electrical signal in said conductor,

wherein said harvester has a critical angle of displacement for said magnets from a horizontal static  
15 position of less than 1 degree.

30. (original) The energy harvester of claim 29, wherein said magnets have different magnetic strengths.

31. (original) The energy harvester of claim 29, wherein said critical angle is less than 10 minutes.

32. (original) The energy harvester of claim 29, further comprising an operating system powered by said signal.

33. (currently amended) The A dynamic magnet system of claim 1, comprising:

~~a support structure, and  
wherein said magnets comprise an even number of  
5 magnets oriented in polar opposition to individually move  
relative to said support structure along a common axis,  
at least some of said magnets having mutually different  
properties.~~

34. - 42. (canceled).

43. (currently amended) The dynamic magnet system of  
claim 42 1, further comprising an operating system pow-  
ered by said signal.

44. - 47. (canceled).

48. (currently amended) A dynamic magnet system,  
comprising:

~~a support structure,  
a plurality of magnets oriented successively in  
5 polar opposition ~~to move for individual movement~~ relative  
to each other and to said support structure, at least  
some of said magnets having mutually different proper-  
ties, and~~

~~respective bearings establishing ultra low  
10 static coefficients of friction less than 0.02 between  
said magnets and said support structure,~~

~~said support structure orienting said magnets  
for primarily horizontal movement.~~

49. (original) The dynamic magnet system of claim  
48, said at least some magnets having different magnetic  
strengths.

50. (original) The dynamic magnet system of claim 49, said at least some magnets having substantially equal sizes.

51. (original) The dynamic magnet system of claim 48, said at least some magnets having different sizes.

52. (original) The dynamic magnet system of claim 51, said at least some magnets having substantially equal unit magnetic strengths.

53. (original) The dynamic magnet system of claim 48, said bearings comprising a ferrofluid.

54. (original) The dynamic magnet system of claim 53, said ferrofluid having a viscosity less than 10 centipoise.

55. (original) The dynamic magnet system of claim 53, said ferrofluid comprising a light mineral oil medium mixed with isoparaffinic acid.

56. (original) The dynamic magnet system of claim 48, further comprising a conductor oriented with respect to said support structure and magnets so that movement of said magnets induces an electrical signal in said conductor.

57. (original) The dynamic magnet system of claim 56, further comprising an operating system powered by said signal.

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Docket No. 01SC135CO1 PATENT

58. (original) The dynamic magnet system of claim 48, said magnets having multiple oscillation modes relative to said support structure.

59. - 64. (canceled)